

QUICK, INTELLIGENT CLEAN UP

Challenge

When contaminants spill, leak or are deliberately dumped into sewers, treatment facilities need to act quickly to contain or neutralize them. This means knowing where the incident occurred, how extensive it is, and how long it will take the contaminants to travel to a treatment plant.

Action

The City of Elkhart Public Works and Utilities Department uses GIS to respond to contamination incidents. The Public Works' sewer pipe database contains information on upstream and downstream identification numbers, pipe diameter, and pipe types (sanitary or storm). The Department customized its GIS to identify and track the route a contaminant will take through the sewer system.

The program allows the user to select a sewer pipe as an entry point. It then follows only downstream, large-diameter sanitary sewer lines. If more than one pipe exits the current pipe, the program chooses the larger one. The program continues this process until a pipe reaches the wastewater treatment plant. When complete, the program then highlights the route it calculated to the treatment plant.

Results

Using GIS routing analysis, users can quickly locate upstream and downstream manholes in proximity to a contamination site, identify sewer pipe size and type, and project the route pollutants will take to the treatment plant. The result is faster response, more effective containment, and a safer water supply.



Predicting the route of a spill allows clean up teams to reach the scene sooner, making them more efficient and the public safer.



Elkhart's award-winning Public Works and Utilities Department uses a customized GIS to find and respond to contaminants faster and more effectively.